ABSTRACT

The present invention provides a communication network
system having a central management device and a plurality of

5   local area network systems.   Each of the plurality of local area
network systems has a router and a terminal. The central
management device encrypts a common key by using each public
key of each router, and sends the encrypted common key to each
router. The router decrypts the encrypted common key sent from

10   the central management device by using a secret key of the router.
The router encrypts communication data to be sent from a
terminal in the router's local area network system to a terminal
in another local area network system, or to be sent from the
router to the central management device by using the common key,

15   and sends the encrypted communication data to another local area
network or the central management device.

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